Amendments to the Claims:

1. (currently amended) A method of optical network termination for removing noise accumulation in an optical network, said method comprising the steps of:

~~receiving over said optical network one or more~~ demultiplexing an input optical ~~signals~~ signal into including a plurality of in-use channels and one or more unused channels, said plurality of input optical signals potentially corrupted with noise accumulation;

~~filtering said one or more input optical signals so as to remove said noise accumulation and to generate one or more filtered optical signals therefrom; and~~

blocking said one or more unused channels so as to eliminate noise from infinitely circulating over said unused channel through said optical network; and

~~outputting~~ multiplexing said plurality of in-use channels and said one or more ~~filtered optical signals~~ blocked unused channels onto said optical network.

2. (currently amended) The method according to claim 1, wherein said step of ~~filtering~~ blocking comprises ~~the steps of:~~ applying a maximum attenuation level.

~~demultiplexing said one or more input optical signals into individual optical signals having different wavelengths; and~~

~~multiplexing said plurality of individual optical signals so as to generate said one or more filtered optical signals, wherein said steps of multiplexing and multiplexing function to remove accumulated noise from each individual optical signal.~~

3. (cancelled)

4. (previously amended) The method according to claim 1, wherein said noise accumulation comprises noise caused by amplifier spontaneous emissions (ASE).

5. (currently amended) The method according to claim [[2]] 1, ~~wherein said step of demultiplexing is operative to be transparent to a bit rate of each individual optical signal~~ further comprising a .

6. (currently amended) The method according to claim 2, wherein said step of demultiplexing is operative to be transparent to a protocol of each individual optical signal.

7-10. (canceled)

11. (previously amended) The method according to claim 1, further comprising monitoring the power level of each individual optical signal.

12. (previously amended) The method according to claim 1, further comprising equalizing the gain of each individual optical signal.

13. (currently amended) The method according to claim 1, further comprising the step of ~~enabling and disabling~~ blocking each individual optical signal in ~~response to~~ accordance with a corresponding control input.

14. (previously amended) The method according to claim 1, wherein said optical network employs dense wavelength division multiplexing (DWDM) techniques.

15-16. (canceled)

17. (original) The method according to claim 1, wherein said optical network comprises an optical ring network.

18-20. (canceled)

21. (currently amended) An optical network terminator for removing accumulated noise from a wavelength division multiplexed (WDM) optical signal in an optical network, comprising:

an optical demultiplexer operative to demultiplex said WDM optical signal into ~~individual optical channels having different wavelengths whereby accumulated noise in said WDM optical signal at the input to said optical demultiplexer is removed from said individual optical channels; and~~ a plurality of in-use channels and one or more unused channels, said plurality of in-use channels and said one or more unused channels potentially corrupted with noise accumulation;

one or more optical attenuators, each attenuator associated with an unused channel and operative to prevent noise from infinitely circulating over said unused channels through said optical network; and

an optical multiplexer adapted ~~optically coupled to said optical demultiplexer, said optical multiplexer operative~~ to multiplex said ~~individual optical channels~~ plurality of in-use channels and the output of said one or more optical attenuators to generate ~~a filtered~~ an output WDM optical signal therefrom with noise accumulation removed.

22-23. (canceled)

24. (previously amended) The optical network terminator according to claim 21, wherein said optical network comprises an optical ring network.

25. (previously amended) The optical network terminator according to claim 21, wherein said noise accumulation comprises noise caused by amplifier spontaneous emissions (ASE).

26. (previously amended) The optical network terminator according to claim 21, wherein said optical demultiplexer is adapted to be transparent to a bit-rate of each individual optical channel.

27. (previously amended) The optical network terminator according to claim 21, wherein said optical demultiplexer is adapted to be transparent to a protocol of each individual optical channel.

28. (currently amended) The optical network terminator according to claim 21, further comprising a monitor ~~coupled in line with each optical channel between said optical demultiplexer and said optical multiplexer, said monitor adapted to monitor the power level of each individual optical channel~~ operative to determine whether a channel is in-use or unused.

29. (currently amended) The optical network terminator according to claim 21, further comprising an equalizer coupled to each optical channel between said optical demultiplexer and said optical multiplexer, said equalizer adapted to equalize the optical gain of each ~~individual~~ optical channel.

30. (currently amended) The optical network terminator according to claim 21, ~~further comprising an optical switch mechanism coupled to each optical channel between said optical demultiplexer and said optical multiplexer, said optical switch mechanism adapted to enable and disable each individual optical channel in response to a corresponding control input~~ wherein the attenuation level of said optical attenuators is increased high enough to effectively remove said unused channels thereby preventing the infinite circulation of noise in said optical network.

31. (previously amended) The optical network terminator according to claim 21, wherein the wavelength of each individual optical channel is determined by said optical demultiplexer.

32. (currently amended) The optical network terminator according to claim 21, ~~further comprising switch means adapted to virtually disconnect one or more optical fibers connecting said optical demultiplexer and said optical multiplexer thus shutting off one or more optical channels~~ wherein said optical attenuators are adapted to be controlled remotely.

33. (currently amended) The optical network terminator according to claim 21, further comprising an optical attenuator placed in series with each ~~optical~~ in-use channel between said optical demultiplexer and said optical multiplexer, said optical attenuator adapted to control the power level of the optical signal in each ~~individual~~ in-use channel.

34. (original) The optical network terminator according to claim 21, further comprising means for reducing cross talk placed in series with each optical channel, said means operative to reduce the cross talk between adjacent optical channels.

35. (previously amended) The optical network terminator according to claim 21, further comprising gain setting means placed in series with each optical channel between said optical demultiplexer and said optical multiplexer, said gain setting means adapted to set the gain of each channel substantially equal to each other.

36. (currently amended) An optical network, comprising:

a plurality of nodes, wherein wavelength division multiplexed (WDM) optical signals communicated from node to node include ~~desirable information and undesirable accumulated noise~~ used channels and unused channel whereby said unused channels circulate accumulated noise infinitely around said optical network;

an optical network terminator for ~~removing accumulated noise from a wavelength division multiplexed (WDM) optical signal in~~ preventing the infinite circulation and accumulation of noise within said optical network, wherein said optical network terminator comprises:

~~an optical demultiplexer operative to demultiplex said WDM optical signal into individual optical channels having different wavelengths whereby accumulated noise in said WDM optical signal at the input to said optical demultiplexer is removed from said individual optical channels; and~~

~~an optical multiplexer optically coupled to said optical demultiplexer, said optical multiplexer operative to multiplex said individual optical channels to generate a filtered WDM optical signal therefrom with noise accumulation removed.~~

an optical demultiplexer operative to demultiplex said WDM optical signal into a plurality of in-use channels and one or more unused channels, said plurality of in-use channels and said one or more unused channels potentially corrupted with noise accumulation;

one or more optical attenuators, each attenuator associated with an unused channel and operative to prevent noise from infinitely circulating over said unused channels through said optical network; and

an optical multiplexer adapted to multiplex said plurality of in-use channels and the output of said one or more optical attenuators to generate an output WDM optical signal therefrom with noise accumulation removed.

37. (previously amended) The network according to claim 36, wherein said noise accumulation comprises noise caused by amplifier spontaneous emissions (ASE).

38. (currently amended) The network according to claim 36, wherein the wavelength of each ~~individual~~ optical channel is fixed and determined by said optical demultiplexer.

39. (previously amended) The network according to claim 36, wherein said optical demultiplexer is adapted to be transparent to a bit-rate of each individual optical channel.

40. (previously amended) The network according to claim 36, wherein said optical demultiplexer is adapted to be transparent to a protocol of each individual optical channel.

41. (currently amended) The network according to claim 36, further comprising a monitor ~~coupled in line with each optical channel between said optical demultiplexer and said optical multiplexer, said monitor adapted to monitor the power level of each individual optical channel~~ operative to determine whether a channel is used or unused.

42. (currently amended) The network according to claim 36, further comprising an equalizer coupled to each optical channel between said optical demultiplexer and said optical multiplexer, said equalizer adapted to equalize the optical gain of each ~~individual~~ optical channel.

43. (currently amended) The network according to claim 36, further comprising an optical switch mechanism coupled to each optical channel between said optical demultiplexer and said optical multiplexer, said optical switch mechanism adapted to enable and disable each ~~individual~~ optical channel in response to a corresponding control input.

44. (currently amended) The network according to claim 36, wherein said ~~multi-channel~~ optical network employs dense wavelength division multiplexing (DWDM) techniques.

45. (currently amended) The network according to claim 36, ~~further comprising~~ wherein said optical attenuators comprise switch means adapted to ~~virtually~~ disconnect ~~one or more optical fibers connecting said optical demultiplexer and said optical multiplexer thus shutting off one or more optical channels~~ said unused channels thereby preventing the infinite circulation of noise in said optical network.

46. (currently amended) The network according to claim 36, further comprising an optical attenuator placed in series with each ~~optical~~ used channel between said optical demultiplexer and said optical multiplexer, said optical attenuator adapted to control the power level of the optical signal in each ~~individual~~ used channel.

47. (original) The network according to claim 36, further comprising means for reducing cross talk placed in series with each optical channel, said means operative to reduce the cross talk between adjacent optical channels.

48. (previously amended) The network according to claim 36, further comprising gain setting means placed in series with each optical channel between said optical demultiplexer and said optical multiplexer, said gain setting means adapted to set the gain of each channel substantially equal to each other.

49. (original) The network according to claim 36, wherein said optical network comprises an optical ring network.

50-52. (canceled)

53. (currently amended) [[An]] A wave division multiplexed (WDM) optical ring network, comprising:

a plurality of nodes ~~situated around said~~ coupled to form an optical ring, wherein a portion of said nodes employs one or more optical amplifiers that add unwanted noise to an optical signal, said optical signal including in-use channels and unused channels whereby said unused channels potentially circulate said accumulated noise infinitely around said optical ring;

an optical network terminator for removing said noise accumulation from ~~a wave division multiplexed (WDM)~~ said optical signal ~~in said optical ring network~~, wherein said optical network terminator comprises:

an optical demultiplexer operative to demultiplex said WDM optical signal into ~~individual~~ a plurality of optical channels having different wavelengths including in-use channels and unused channels ~~whereby noise accumulation in said WDM optical signal at the input to said optical demultiplexer is removed from said individual optical channels~~;

a plurality of optical attenuators, each optical attenuator ~~coupled in line to an individual~~ associated with an unused optical channel, said optical attenuator operative to ~~vary the optical gain of an optical signal~~ effectively block the optical signal in an unused channel thereby preventing the infinite circulation of noise accumulation around said optical ring;

a plurality of monitors, each monitor coupled in-line to an ~~individual~~ optical channel, said monitor operative to measure the optical power of ~~an optical signal~~ a respective channel in response thereto, determine whether a channel is in-use or unused; and

an optical multiplexer optically coupled to the output of said plurality of monitors, said optical multiplexer operative to multiplex said ~~individual~~ optical channels to generate ~~a filtered WDM~~ an output optical signal therefrom with noise accumulation removed.

54. (original) The network according to claim 53, wherein said optical demultiplexer is operative to generate eight channels corresponding to eight different wavelengths.

55. (previously amended) The network according to claim 53, wherein said optical multiplexer is operative to multiplex eight channels corresponding to eight different wavelengths.

56. (original) The network according to claim 53, wherein said optical ring terminator is adapted to be transparent to the bit-rate of each individual optical channel.

57. (original) The network according to claim 53, wherein said optical ring terminator is adapted to be transparent to the protocol of each individual optical channel.

58. (original) The network according to claim 53, wherein said optical ring terminator is adapted to provide remote enabling/disabling of individual optical channels.

59. (original) The network according to claim 53, wherein said optical ring terminator is adapted to enable the gain equalization of said plurality of optical channels.

60. (original) The network according to claim 53, wherein said optical ring terminator is adapted to enable in-line monitoring of power level of said plurality of optical channels.

61-62. (canceled)

63. (currently amended) An optical ring network employing wave division multiplexing (WDM), comprising:

a plurality of nodes optically coupled to each other to form an optical ring;

one or more optical amplifiers located with said plurality of nodes, each optical amplifier causing amplifier spontaneous emissions noise to be injected and accumulated onto WDM optical signals transmitted from node to node in said optical ring;

an optical terminator located between any two nodes on said optical ring, said optical terminator for ~~removing~~ preventing accumulated amplifier spontaneous emissions noise from ~~said wavelength division multiplexed (WDM) optical signals~~ circulating indefinitely around said optical ring, said optical terminator comprising:

~~an optical demultiplexer operative to demultiplex said WDM optical signal into individual optical signals having different wavelengths whereby noise accumulation in said WDM optical signal at the input to said optical demultiplexer is removed from said individual optical signals; and~~

~~an optical multiplexer optically coupled to said optical demultiplexer, said optical multiplexer operative to multiplex said individual optical signals to generate a filtered WDM optical signal therefrom with noise accumulation removed.~~

an optical demultiplexer operative to demultiplex said WDM optical signal into a plurality of in-use channels and one or more unused channels, said plurality of in-use channels and said one or more unused channels potentially corrupted with noise accumulation;

one or more optical attenuators, each attenuator associated with an unused channel and operative to prevent noise from infinitely circulating over said unused channels through said optical network; and

an optical multiplexer adapted to multiplex said plurality of in-use channels and the output of said one or more optical attenuators to generate an output WDM optical signal therefrom with noise accumulation removed.

64. (previously amended) The method according to claim 63, wherein the wavelength of each individual optical signal is determined by said optical demultiplexer.

65. (canceled)